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EXAMINER	
MATTIS, JASON E	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/806,134	Applicant(s) SITTE ET AL.	
	Examiner Jason E Mattis	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/26/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "broad plurality" in claim 23 is a relative term, which renders the claim indefinite. The term "broad plurality" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It home many transmission channels would constitute a "broad plurality of broadband transmission channels" as opposed to just a plurality of transmission channels. It is recommended that the applicant either qualify in the claim the amount of transmission channels that constitute a "broad plurality" or delete the word "broad" from the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 6-10, and 12-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Gorsuch et al. (U.S. Pat. 6081536).

With respect to claim 1, Gorsuch et al. discloses a method for transmitting data between a base station, base stations 170, and a subscriber station, subscriber units 101 and 102, in a radio communications system, system 100 **(See column 3 lines 29-48 and items 100, 101, 102, and 170 in Figure 1 of Gorsuch et al. for reference to a method for providing high speed data and voice services over a wireless connection in a system 100 including base stations 170 and subscriber units 101 and 102)**. Gorsuch et al. also discloses data for a plurality of services being transmitted simultaneously as blocks in a frame **(See column 3 lines 49-63 of Gorsuch et al. for reference to data being transmitted for both data services and voice services in the system 100)**. Gorsuch et al. further discloses setting a service-specific block size as a smallest transmission unit for data from each of the plurality of services transmitted in the frame **(See column 6 lines 44-53 of Gorsuch et al. for reference to the transmission channel sizes being divided into 64 smaller subchannels, blocks, each providing an 8 kbps data rate, meaning that the amount of data transmitted in each frame is set at a smallest transmission size of 8 kbps)**. Gorsuch et al. also discloses signaling a number of blocks per service transmitted in the frame and obtaining an arrangement of the blocks for the plurality of services in the frame from the number of blocks per service and a predetermined coding **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling between**

subscriber unit 101 and base station 170 the number of subchannels, blocks, to be allocated to the subscriber unit for transmission and for reference to signaling which specific subchannels are allocated to the subscriber unit so that subscriber unit may arrange the service data in the specified subchannels based on priority of service and other predetermined coding). Gorsuch et al. further discloses entering the data in the frame in accordance with the predetermined coding and transmitting the frame via a radio interface **(See column 6 line 61 to column 8 line 43 and Figure 4 of Gorsuch et al. for reference to subscriber unit 101 encoding data for transmission according to predetermined coding and protocol and sending the data in the allocated subchannels to base station 170)**. Gorsuch et al. also discloses reading, at the receiving end, the data from the frame in accordance with the signaled number of blocks per service and the predetermined coding **(See column 9 lines 34-52 and Figure 6 of Gorsuch et al. for reference to base station 170, which performs similar transmission and reception process to that of the subscriber unit 101, receiving and decoding data from subscriber unit 101)**.

With respect to claim 2, Gorsuch et al. discloses that the coding indicates a sequence of the blocks **(See column 8 line 44 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to the method by which subscriber unit 101 requests and is allocated subchannels by base station 170, meaning the subscriber unit and base station must send some coding to indicate the sequence of the subchannels that are allocated to the subscriber unit so the subscriber unit transmits data in the correct subchannels)**.

With respect to claim 3, Gorsuch et al. discloses that the predetermined coding indicates a number of transmission channels which are used simultaneously between the base station and the subscriber station **(See column 9 lines 9-20 and Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting subchannels and for reference to the request being granted, meaning that the number of subchannels to be used simultaneously is determined by predetermined coding)**.

With respect to claim 4, Gorsuch et al. discloses that the data is transmitted via a plurality of broadband transmission channels and the predetermined coding indicates a spread factor used in the plurality of broadband transmission channels **(See column 6 lines 14-53 of Gorsuch et al. for reference to the channels in system 100 using a CDMA multiplexing format meaning that predetermined coding must indicate to the subscriber units the spread factor to be used in the channels)**.

With respect to claim 6, Gorsuch et al. discloses that the number of blocks per service in each frame is signaled relative to a statement for a preceding frame **(See column 8 line 44 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to the method in system 100 used to assign subchannels having requests for more or less subchannels and for reference to the requests for more subchannels being relative to the previously amount of assigned subchannels, for example, no matter how many subchannels are currently assigned to a subscriber unit, when a subscriber unit requests more subchannels, it only requests the relative amount of more subchannels it needs and not the total number of subchannels it needs)**.

With respect to claim 7, Gorsuch et al. discloses that the number of blocks per service varies from frame to frame in steps of different size **(See column 8 line 44 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting addition subchannels, the number of which may vary, and receiving a number of allocated subchannels which vary from frame to frame)**.

With respect to claim 8, Gorsuch et al. discloses that the predetermined coding is defined on a system-wide basis **(See column 3 lines 29-35 and Figure 1 of Gorsuch et al. for reference to method for providing high speed data and voice service over a wireless connection being operated in system 100, which means that all of the predetermined coding used by the system is provided on a system-wide basis)**.

With respect to claim 9, Gorsuch et al. discloses that the predetermined coding is defined when setting up a connection between the base station and the subscriber unit **(See column 8 line 44 to column 9 line 8 and Figure 5 of Gorsuch et al. for reference to setting up predetermined coding by allocating specific subchannels when setting up a connection between subscriber unit 101 and base station 170)**.

With respect to claim 10, Gorsuch et al. discloses that the predetermined coding reduces the number of transmission channels per connection between the base station and the subscriber station **(See column 5 line 66 to column 6 line 13 of Gorsuch et al. for reference to only allocating transmission channels when there is data currently available to transmit, meaning the system 100 reduces the**

number of transmission channels per connection because the channels are release when there is no data to transmit unlike prior systems).

With respect to claim 12, Gorsuch et al. discloses a radio communications system, system 100, comprising a base station, base stations 170, a radio interface, between antennas 150 and 171, and a subscriber station, subscriber units 101 and 102, connected to the base station via the radio interface **(See column 3 lines 29-48 and items 100, 101, 102, 150, 170, and 171 in Figure 1 of Gorsuch et al. for reference to a method for providing high speed data and voice services over a wireless connection in a system 100 including base stations 170 and subscriber units 101 and 102 using an air radio interface between antennas 150 and 171)**. Gorsuch et al. also discloses transmitting a plurality of services **(See column 3 lines 49-63 of Gorsuch et al. for reference to data being transmitted for both data services and voice services in the system 100)**. Gorsuch et al. further discloses using a service specific block size as a smallest transmission unit **(See column 6 lines 44-53 of Gorsuch et al. for reference to the transmission channel sizes being divided into 64 smaller subchannels, blocks, each providing an 8 kbps data rate, meaning that the amount of data transmitted in each frame is set at a smallest transmission size unit of 8 kbps)**. Gorsuch et al. also discloses a signaling means which signals a number of blocks per service from a frame to be transmitted **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling between subscriber unit 101 and base station 170 the number of subchannels, blocks, to be allocated to the subscriber unit for transmission)**. Gorsuch et al. further

discloses a coding means which enters the data in the frame in accordance with a predetermined coding and a transmission means, which transmits the frame via the radio interface **(See column 6 line 61 to column 8 line 43 and Figure 4 of Gorsuch et al. for reference to subscriber unit 101 encoding data for transmission according to predetermined coding and protocol and sending the data in the allocated subchannels over the radio interface to base station 170)**. Gorsuch et al. also discloses a decoding means which, at the receiving end, reads the data from the frame in accordance with the predetermined coding and the signaled number of blocks per service **(See column 9 lines 34-52 and Figure 6 of Gorsuch et al. for reference to base station 170, which performs similar transmission and reception process to that of the subscriber unit 101, receiving and decoding data from subscriber unit 101)**.

With respect to claim 13, Gorsuch et al. discloses that the predetermined coding indicates a number of transmission channels which are used simultaneously between the base station and the subscriber station **(See column 9 lines 9-20 and Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting subchannels and for reference to the request being granted, meaning that the number of subchannels to be used simultaneously is determined by predetermined coding)**.

With respect to claim 14, Gorsuch et al. discloses that the predetermined coding indicates a number of transmission channels which are used simultaneously between the base station and the subscriber station **(See column 9 lines 9-20 and**

Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting subchannels and for reference to the request being granted, meaning that the number of subchannels to be used simultaneously is determined by predetermined coding).

With respect to claim 15, Gorsuch et al. discloses that the data is transmitted via a plurality of broadband transmission channels and the predetermined coding indicates a spread factor used in the plurality of broadband transmission channels **(See column 6 lines 14-53 of Gorsuch et al. for reference to the channels in system 100 using a CDMA multiplexing format meaning that predetermined coding must indicate to the subscriber units the spread factor to be used in the channels).**

With respect to claim 16, Gorsuch et al. discloses that the number of blocks per service varies from frame to frame in steps of different size **(See column 8 line 44 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting addition subchannels, the number of which may vary, and receiving a number of allocated subchannels which vary from frame to frame).**

With respect to claim 17, Gorsuch et al. discloses Gorsuch et al. discloses that the predetermined coding is defined when establishing a connection between the base station and the subscriber station **(See column 8 line 44 to column 9 line 8 and Figure 5 of Gorsuch et al. for reference to setting up predetermined coding by allocating specific subchannels when setting up a connection between subscriber unit 101 and base station 170).**

With respect to claim 18, Gorsuch et al. discloses a method of transmitting a plurality of services **(See column 3 lines 49-63 of Gorsuch et al. for reference to data being transmitted for both data services and voice services in the system 100)**. Gorsuch et al. also discloses implementing a service-specific block size for use as a smallest transmission unit for transmitting data from each of the plurality of services as blocks in a frame **(See column 6 lines 44-53 of Gorsuch et al. for reference to the transmission channel sizes being divided into 64 smaller subchannels, blocks, each providing an 8 kbps data rate, meaning that the amount of data transmitted in each frame is set at a smallest transmission unit size of 8 kbps)**. Gorsuch et al. further discloses determining a number of blocks in the frame based on the service-specific block size for each of the plurality of services, entering the data in the frame based on the determined number of blocks and a predetermined coding, and transmitting the frame via a radio interface **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling between subscriber unit 101 and base station 170 the number of subchannels, blocks, to be allocated to the subscriber unit for transmission and for reference to signaling which specific subchannels are allocated to the subscriber unit so that subscriber unit may arrange the service data in the specified subchannels based on priority of service and other predetermined coding and See column 6 line 61 to column 8 line 43 and Figure 4 of Gorsuch et al. for reference to subscriber unit 101 encoding data for transmission according**

to predetermined coding and protocol and sending the data in the allocated subchannels to base station 170).

With respect to claim 19, Gorsuch et al. discloses signaling the determined number of blocks per service a receiver station **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling between subscriber unit 101 and base station 170 the number of subchannels, blocks, to be allocated to the subscriber unit for transmission).**

With respect to claim 20, Gorsuch et al. discloses receiving the frame at the receiver station and reading the data in the frame at the receiver station based on the signaled number of blocks per service and the predetermined coding **(See column 9 lines 34-52 and Figure 6 of Gorsuch et al. for reference to base station 170, which performs similar transmission and reception process to that of the subscriber unit 101, receiving and decoding data from subscriber unit 101).**

With respect to claim 21, Gorsuch et al. discloses an apparatus to transmit data for a plurality of services **(See column 3 lines 49-63 of Gorsuch et al. for reference to data being transmitted for both data services and voice services in the system 100).** Gorsuch et al. also discloses coding means to set a server-specific block size as a smallest transmission unit for data from each of the plurality of services transmitted in the frame **(See column 6 lines 44-53 of Gorsuch et al. for reference to the transmission channel sizes being divided into 64 smaller subchannels, blocks, each providing an 8 kbps data rate, meaning that the amount of data transmitted in each frame is set at a smallest transmission size of 8 kbps).** Gorsuch et al.

further discloses obtaining an arrangement of the blocks for the plurality of services in the frame from the number of blocks per service and a predetermined coding **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling which specific subchannels are allocated to the subscriber unit so that subscriber unit may arrange the service data in the specified subchannels based on priority of service and other predetermined coding)**. Gorsuch et al. also discloses a signaling means to signal a number of blocks per service transmitted in the frame **(See column 8 line 28 to column 9 line 34 and Figure 5 of Gorsuch et al. for reference to signaling between subscriber unit 101 and base station 170 the number of subchannels, blocks, to be allocated to the subscriber unit for transmission)**. Gorsuch et al. further discloses entering the data in the frame in accordance with the predetermined coding and transmitting the frame via a radio interface **(See column 6 line 61 to column 8 line 43 and Figure 4 of Gorsuch et al. for reference to subscriber unit 101 encoding data for transmission according to predetermined coding and protocol and sending the data in the allocated subchannels to base station 170)**.

With respect to claim 22, Gorsuch et al. discloses that the predetermined coding indicates a number of transmission channels which are used simultaneously between the base station and the subscriber station **(See column 9 lines 9-20 and Figure 5 of Gorsuch et al. for reference to subscriber unit 101 requesting subchannels and for reference to the request being granted, meaning that the**

number of subchannels to be used simultaneously is determined by predetermined coding).

With respect to claim 23, Gorsuch et al. discloses that the data is transmitted via a plurality of broadband transmission channels and the predetermined coding indicates a spread factor used in the plurality of broadband transmission channels **(See column 6 lines 14-53 of Gorsuch et al. for reference to the channels in system 100 using a CDMA multiplexing format meaning that predetermined coding must indicate to the subscriber units the spread factor to be used in the channels).**

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorsuch et al. in view of Whitehead (U.S. Pat. 5732077).

With respect to claim 5, Gorsuch et al. does not discloses that the number of blocks per service in the frame is signaled as an absolute statement.

Whitehead, in the field of communications, discloses a method for transmitting in a length sub-field, which indicates, as an absolute statement, the length, or amount of data in a wireless service data packet **(See column 6 lines 20-24 of Whitehead for**

reference to the length sub-field, which indicates the length of a packet to be transmitted). Transmitting the number of blocks per service in a frame as an absolute statement has the advantage of allowing the system to transmit a variable amount of data in each block, frame, or packet without requiring the system to remember, or store, information relating to the length of previous blocks, frames, or packets.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Whitehead, to combine signaling the number of blocks per service in a frame as an absolute statement, as suggested by Whitehead, with the wireless communication system and method of Gorsuch et al., with the motivation being to allow the system to transmit a variable amount of data in each block, frame, or packet without requiring the system to remember, or store, information relating to the length of previous blocks, frames, or packets.

With respect to claim 11, Gorsuch et al. does not disclose a block size of one bit.

Whitehead, in the field of communications, discloses a wireless system and method have packets of any length **(See column 4 lines 11-15 of Whitehead for reference to data packet that are transmitted between pairs of stations being any length)**. Since data packets of any length, or any amount of bits, may be transmitted, the minimum block size, or smallest transmission unit for data, in the system and method of Whitehead is one bit. Having a block size of one bit has the advantage of allowing the maximum amount of flexibility to transmit data having any length or amount of bits.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Whitehead, to combine a block size of one bit, as suggested by Whitehead, with the wireless communication system and method of Gorsuch et al., with the motivation being to allow the maximum amount of flexibility to transmit data having any length or amount of bits.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jorgensen (U.S. Application 10/241454) discloses a system for transmitting a variable number of data signals in each data frame. Roobol et al. (U.S. Pat. 6363058) discloses a system for transmitting multiple services by a single mobile station with a variable number of blocks per data transmission. Bergamo (U.S. Pat. 6104708) discloses a system with a variable number of remote terminals transmitting in each block. Press et al. (U.S. Pat. 5619492) discloses a CDMA system with a variable number of bits of data transmitted in each block.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (703) 305-8702. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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